AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions of claims in this application.

Please amend claims 13 and 30 as follows:

1. (Previously Presented) An electrode comprising:

a base metal made of a cast metal;

a heater arranged on a plane;

an upper ceramic-metal composite arranged above the heater; and

an lower ceramic-metal composite arranged below the heater,

wherein the heater and the upper and lower ceramic-metal composites are cast in the base metal, and each of the upper and lower ceramic-metal composites comprises a preformed porous ceramic infiltrated with the base metal.

2. (Previously Presented) An electrode comprising:

a base metal formed of a cast metal;

a heater embedded in the base metal and arranged on a plane; and

a core metal plate embedded in the base metal and arranged substantially parallel to the plane and adjacent to the heater;

wherein the heater and the core metal are cast in the base metal, and the core metal plate is entirely surrounded by the base metal and is entirely in metal-to-metal contact with the base metal, and

wherein a material forming the core metal plate has a rigidity higher than that of a material forming the base metal.

3. (Previously Presented) The electrode according to claim 2, wherein the core metal plate has a plurality of through-holes filled with the base metal, so that the base metal above and below the plate is bound together via the base metal in the through-holes.

4. (Previously Presented) The electrode according to claim 2, wherein a lower surface of the base metal is configured to adopt a shower head portion that supplies a gas.

5. (Previously Presented) The electrode according to claim 2, wherein the electrode is configured so that a high frequency voltage is applied thereto.

6. (Previously Presented) A susceptor comprising:

a heater arranged on a plane;

an upper ceramic-metal composite arranged above the heater;

an lower ceramic-metal composite arranged below the heater; and

a ceramic electrostatic chuck for holding an object to be treated, the electrostatic chuck having a coefficient of linear thermal expansion substantially the same as that of the upper ceramic-metal composite, and being joined to an upper surface of the upper ceramic-metal composite.

7. (Previously Presented) The susceptor according to claim 6, wherein the heater and the upper and lower ceramic-metal composites are cast in a base metal.

8. (Previously Presented) The susceptor according to claim 6, wherein the upper ceramic-metal composite and the electrostatic chuck are brazed together.

9. (Previously Presented) The susceptor according to claim 6, wherein the upper ceramic-metal composite and the electrostatic chuck are forge-welded together.

10. (Previously Presented) The susceptor according to claim 6, wherein the upper ceramic-metal composite and the electrostatic chuck are adhered together.

11. (Previously Presented) The susceptor according to claim 6, wherein the susceptor is configured so that a high frequency voltage is applied thereto.

12. (Previously Presented) A plasma processing apparatus comprising:

a processing vessel;

an electrode including:

a base metal made of a cast metal;

a heater arranged on a plane;

an upper ceramic-metal composite arranged above the heater; and

an lower ceramic-metal composite arranged below the heater,

wherein the heater and the upper and lower ceramic-metal composites are cast in the base metal, and each of the upper and lower ceramic-metal composites comprises a preformed porous ceramic infiltrated with the base metal; and

a high frequency power source that applies a high frequency voltage to the electrode.

13. (Currently Amended) A plasma processing apparatus comprising:

a processing vessel,

an electrode including:

a base metal formed of a cast metal;

a heater embedded in the base metal and arranged on a plane; and

a core metal plate embedded in the base metal and arranged substantially parallel to the plane and adjacent to the heater;

wherein the heater and the ceramic-metal composites are cast in the base metal, and the core metal plate is entirely surrounded by the base metal and is entirely in metal-to-metal contact with the base metal, and

wherein a material forming the core metal plate has a rigidity higher than that of a material forming the base metal; and

a high frequency power source that applies a high frequency voltage to the electrode.

14. (Previously Presented) The apparatus according to claim 13, wherein the core metal plate has a plurality of through-holes filled with the base metal, so that the base metal above and below the plate is bound together via the base metal in the through-holes.

15. (Previously Presented) The plasma processing apparatus according to claim 12, wherein a lower surface of the base metal is configured to adopt a shower head portion that supplies a gas.

16. (Previously Presented) A plasma processing apparatus comprising:

a processing vessel,

a susceptor including:

a heater arranged on a plane;

an upper ceramic-metal composite arranged above the heater;

an lower ceramic-metal composite arranged below the heater; and

a ceramic electrostatic chuck for holding an object to be treated, the electrostatic chuck having a coefficient of linear thermal expansion substantially the same as that of the upper ceramic-metal composite, and being joined to an upper surface of the upper ceramic-metal composite; and

a high frequency power source that applies a high frequency voltage to the susceptor.

17. (Original) The plasma processing apparatus according to claim 16, wherein the heater and the upper and lower ceramic-metal composites are cast in a base metal.

18. (Previously Presented) The plasma processing apparatus according to claim 16, wherein the susceptor is provided with at least one heat transfer gas passage for supplying a heat transfer gas to a surface of the electrostatic chuck.

19. (Previously Presented) The plasma processing apparatus according to claim 16, wherein the upper ceramic-metal composite and the electrostatic chuck are brazed together.

20. (Previously Presented) The plasma processing apparatus according to claim 16, wherein the upper ceramic-metal composite and the electrostatic chuck are forge-welded together.

21. (Previously Presented) The plasma processing apparatus according to claim 16, wherein the upper ceramic-metal composite and the electrostatic chuck are adhered together.

22. (Previously Presented) A method of making an electrode, comprising:

placing a heater and a pair of porous ceramics in a mold with a positional relationship where the pair of porous ceramics are arranged above

and below the heater respectively so that the heater is positioned therebetween; and

pouring a molten base metal into the mold to cast the pair of porous ceramics and the heater in the base metal, thereby infiltrating the porous ceramic with the base metal in order to form a ceramic-metal composite.

23. (Previously Presented) A method of making a susceptor, comprising:

placing a heater and a pair of porous ceramics in a mold with a positional relationship where the pair of porous ceramics are arranged above and below the heater respectively so that the heater is positioned therebetween; and

pouring a molten base metal into the mold to cast the pair of porous ceramics and the heater in the base metal, thereby infiltrating the porous ceramic with the base metal in order to form a ceramic-metal composite.

24. (Previously Presented) The electrode according to claim 1, wherein a lower surface of the base metal is configured to adopt a shower head portion that supplies a gas.

25. (Previously Presented) The electrode according to claim 1, wherein the electrode is configured so that a high frequency voltage is applied thereto.

26. (Previously Presented) The plasma processing apparatus according to claim 13, wherein a lower surface of the base metal is configured to adopt a shower head portion that supplies a gas.

27. (Previously Presented) The susceptor according to claim 6, wherein the ceramic electrostatic chuck includes a ceramic base of a ceramic material and a metallic electrode embedded in the ceramic base and adapted to generate an electrostatic force that attracts the object to be treated.

28. (Previously Presented) The susceptor according to claim 6, wherein the upper and the lower ceramic-metal composites and the heater are embedded in a base metal of aluminum while leaving the upper surface of the upper ceramic-metal composite exposed for joining to the electrostatic chuck.

29. (Previously Presented) The plasma processing apparatus according to claim 16, wherein the ceramic electrostatic chuck includes a ceramic base of a ceramic material and a metallic electrode embedded in the ceramic base and adapted to generate an electrostatic force that attracts the object to be treated.

30. (Currently Presented) The plasma processing apparatus according to claim 16, wherein the upper and the lower ceramic-metal composites and the heater are

embedded in a base metal of aluminum while leaving the upper surface of the upper ceramic-metal composite exposed for joining to the electrostatic chuck.